

Cornell

THE CORNELL UNIVERSITY,

ITHACA, N. Y. Cornell univ.

FALL TRIMESTER, 1872-3.

Lectures on Human Physiology and Hygiene.

1	F.	Sept.	13	Method of Study. Hygienic suggestions.
2	M.	"	16	Hygienic suggestions—continued.
3	W.	"	18	Ultimate and proximate chemical elements.
4	F.	"	20	" " " physical "
5	M.	"	23	Examination.
6	W.	"	25	Review—Tissues and their properties.
7	F.	"	27	Work, Waste and supply.
8	M.	"	30	Classification of functions. Alimentation.
9	W.	Oct.	2	Digestion.
10	F.	"	4	Absorption.
11	M.	"	7	Examination.
12	W.	"	9	Review—Respiration.
13	F.	"	11	Respiration—continued.
14	M.	"	14	Ventilation.
15	W.	"	16	Blood.
16	F.	"	18	Heart.
17	M.	"	21	Examination.
18	W.	"	23	Review—Blood-vessels: accidents.
19	F.	"	25	Nutrition.
20	M.	"	28	Secretion. Excretion.
21	W.	"	30	Reproduction.
22	F.	Nov.	1	"
23	M.	"	4	Examination.



24	W.	Nov.	6	Review—Food and Drink.
25	F.	"	8	Stimulants.
26	M.	"	11	Poisons.
27	W.	"	13	Clothing, sleep and exercise.
28	F.	"	15	Drowning and hanging.
29	M.	"	18	Examination.
30	W.	"	20	Review—Skin and touch.
31	F.	"	22	Spinal cord and nerves.
32	M.	"	25	Functions of cord.
33	W.	"	27	Structure of brain.
34	F.	"	29	Functions " "
35	M.	Dec.	1	Examination.
36	W.	"	3	Review—Taste and smell.
37	F.	"	5	Hearing.
38	M.	"	8	Sight.
39	W.	"	10	Prehension.
40	F.	"	12	Locomotion.
41	M.	"	15	Examination.
42	W.	"	17	"
43	F.	"	19	"

ATTENDANCE upon the above course of lectures is required of all first year students in all regular courses, with the following exceptions:—

1. Those who have passed a satisfactory examination in Physiology.
2. Those who take optional or special courses.
3. Students in the Sibley College of Mechanic Arts.

TIME AND PLACE. The lectures are given by Professor Wilder, at the 4th hour, (11.15 A. M.), on Monday, Wednesday and Friday, in the Anatomical Theater, north wing of the McGraw Building.

METHOD OF INSTRUCTION. No recitations are held. The student is expected to provide himself with a note-book containing about one hundred pages, and to neatly transcribe into it the rough notes taken during the lecture; if this is done soon after each lecture, the rough notes may be very brief, comprising chiefly diagrams, tables, important facts and ideas, stated in as few words as possible. Never use words when a diagram will indicate the same thing; mere illustrations and anecdotes should never be written out; the note-books will be called for occasionally during the term, and no examination is completed until the note-book is written up and approved. The student should have access to one or more of the following named works, or their equivalents; the first four are better suited to those who intend to become physicians or naturalists, although the beginner would do well to possess one of the smaller works in addition:—

Flint's Physiology of Man; four volumes now published; the fifth and last will treat of Reproduction,	\$4 50 per vol:
Marshall's Physiology, Human and Comparative,	6 00
Dalton's Human Physiology,	5 00
Draper's (J. W.) Human Physiology,	4 25
Cutter's Physiology and Hygiene,	1 50
Dalton's " " 	1 25
Draper's (J. C.) " " 	1 25
Huxley and Youman's " " 	1 70

The student is expected to read upon the subject before and after each lecture, and he is advised not to follow blindly any one author, or the lecturer, but to think for himself, and to accept as proved only such points as all are agreed upon.

The name of the student should be written upon the cover of the note-book, and the date and subject should be given at the head of each lecture.

Note-books and books of reference may be brought into the lecture-room. A copy of this list of lectures, etc., should be pasted into the note-book.

The doors will be closed in ten minutes after the beginning of the hour.

Professor Wilder will remain in the lecture-room during the hour succeeding each lecture, to answer questions, etc., and may be found at other times in the Anatomical Laboratory.

THE EXAMINATIONS are all in writing; one occurs at the close of each general subject, and a final one at the end of the course. The last alone determines the "passing" of the student, but the others serve to indicate the points needing further explanation, which is given at the beginning of the following lecture.

PRIZES. The President's prizes will be awarded as follows:

The 3d, of \$10, for the best series of notes.

The 2d, of \$20, " original lecture.

The 1st, of \$30, " written examination.

The lecture is to be upon some special subject in human anatomy or physiology; to be spoken from notes, and not committed to memory; to be not more than thirty nor less than fifteen minutes in length; other conditions will be announced hereafter, but no prize will be given to a student who has failed in any of the studies of the term.

GENERAL RULES OF HEALTH.

The following are a few general rules which *now* appear to me to be based upon experience and physiological knowledge. But upon many important matters, high authorities differ greatly; moreover, no two persons are precisely alike, and there must be exceptions to any but the most general rules.

Under ordinary circumstances we may keep or regain health by proper care of the body; proper care consists in the taking of wholesome food in sufficient quantity, and at proper intervals; in the use of pure water; in breathing good air; in cleanliness; in the avoidance of *unnecessary* excess of every kind; in taking plenty of sleep; and in keeping a clear conscience.

Prevention is better than cure; we should aim to *avoir* disease, and when ill, trust as far as possible to Nature, aiding her efforts by proper care and nursing; the majority of diseases tend to get well of themselves, and in such cases drugs may do more harm than good. Indiscriminate medication upon the advice of friends and neighbors is foolish, and may do great harm. A "Panacea" or "cure-all" is a *prima facie* humbug, and secret medicines are always to be suspected. The wisest and most successful physicians are those who depend the least upon drugs, who make no mystery of their practice, and who, regarding medicine as at best, a necessary evil, instruct their patients how to avoid disease, and how to relieve themselves when ill.

FOOD AND DRINK.

1. Food should be palatable and not highly seasoned; it should consist of more than one, but not of many different articles; it should vary in quantity and quality according to age, climate, weather and occupation. Sugars, starches and fats contain a large proportion of carbon, and are thought to be more heating and less strengthening; albuminoids contain nitrogen, and are thought to be more nutritious. The whole, (unbolted) or partially bolted grains are found to be good and sufficient food for dogs, horses and men; but nature demands variety. As a rule, carnivora are not wholesome food. Hot, *soft* bread digests slowly.

2. Bad cooking may spoil good food. Pork should be thoroughly cooked, in order to destroy parasites. Avoid frying meat; boil, roast or broil it, beginning with a high heat; but for *soups*, begin lukewarm.

3. Three full meals daily are customary, and *may be* natural; but their number, their relative quantity and quality, and the intervals between them, are largely matters of opinion, habit and convenience; regularity is very important. Avoid lunches, so-called.

4. Eat something, or drink a cup of coffee, within an hour after rising, especially if obliged to labor or study; but avoid both of these before breakfast if possible, and particularly exposure to malaria or contagion.

5. Let the amount of a meal bear some relation to future needs as well as present appetite, but it is better to carry an extra pound in your pocket than in your stomach.

6. Eat in pure air and pleasant company; light conversation and gentle exercise promote digestion, but hard work of any kind retards it. Avoid *severe* bodily or mental labor just before, and for two hours after a full meal.

7. Eat slowly; masticate well; five minutes more at dinner may give you better use of an hour afterward. Drink little at meals, and never a full glass of very hot or very cold liquid. Never *wash down* a mouthful. Avoid waste of saliva by expectoration.

8. Evacuate the bowels daily, and above all regularly; the best time is after breakfast; partly to be rid of a physical burden during the day, but chiefly to relieve the brain.

9. Constipation is safer than diarrhoea. For the former, exercise, ride horseback, knead the belly, take a glass of cold water before breakfast, eat fruit and laxative food: for the latter, follow an opposite course; toast, crust, crackers, and rice are then the best food.

It must be remembered that the following are mere "notes" for the use of my students: many of the rules are quite insufficient or even unintelligible unless duly amplified and explained.

Intemperance is any kind of excess; the term is generally restricted to the use of stimulant articles (tea, coffee, opium, tobacco and alcoholic drinks.) It is my belief that all of these *may* be used in a temperate manner, and without sensible injury; that there is a radical distinction between their *stimulant* and their *narcotic* doses; but that their effects may be determined by the time and manner of using them, and by individual peculiarities. Never *chew* tobacco; smoke the milder kinds, and in long clay pipes which should be changed often. Use pure wine, if any: avoid *distilled liquors*; take no liquor upon an empty stomach. I advise no person to begin the use of any stimulant until of age, or able to judge of his necessities and liabilities to intemperance.

AIR.

11. Breathe through the nose, especially in the cold. Prevent snoring by a bandage under the jaw and over the head.
12. Heating should not interfere with ventilation; the best method is by a hot air furnace and a small open fire place; in all cases, there should be an opening for the egress as well as the ingress of air.
13. A constrained position of the body may lessen the capacity of the lungs.
14. In apnoea (from hanging or drowning) restore respiration first; circulation afterward; the former by means of movements of the arms and body, the latter by heat and friction.
15. Burn coffee for bad odors; permanganate of potash in water, (Condyl's solution,) is a deodoriser and disinfectant; carbolic acid and chlorinated soda are also useful.
16. Keep the temperature of a sitting room at from 65 to 70 degrees F. Avoid a draft.
17. Air sleeping rooms and bedding early; never sleep in the under clothing of the day.
18. Prefer a sunny room.

DRESS.

19. Fabrics are not warm in themselves, but in proportion to their properties as non-conductors of heat; silk is the poorest conductor, therefore makes the warmest garments, next wool, next cotton, and linen being the best conductor makes the coolest garments. It is safe to wear a silk or merino vest next the skin in all weathers.
20. More clothing is needed while sleeping or at rest, than while awake and active.
21. Clothing should not compress the body.

BATHING.

22. Wash thoroughly the whole body with soap and warm water at least once a week, just before retiring. Wash the feet at night and the trunk in the morning. For those who can bear it, the cold morning shower or sponge-bath is exhilarating; it should be taken in a warm room. If the skin is not reddened by rubbing, the water is too cold, or the person cannot bear the shock.

23. Brush the teeth at night as well as in the morning; consult a dentist at least once a year. Keep the nails clean with a nail brush; never bite the nails.

SLEEP, STUDY AND EXERCISE.

24. During sleep the waste of the body, and especially of the brain, is repaired; we should retire early, say at 10 P. M., and get sleep enough so as to be fresh next day; if obliged to lose sleep, make it up.

25. The best time for hard study is the forenoon; the next best, the evening; the next, the afternoon: the worst and most injurious are after 10 P. M. and before breakfast. Study hard for an hour, then rest a few moments.

26. The student should take a short walk after each meal; and longer ones, or work or other exercise in the afternoon. Riding horse-back is the most perfect exercise for students; walking should have an object and be taken in pleasant company.

27. Games are often carried to excess, so as to do more harm than good; the same is true of heavy gymnastics. Agility is better than great strength; and it is not certain that the man under training is in a normal or healthy condition.

THE SENSES.

28. Avoid sudden glares of light and loud sounds. Never look directly at the sun; fine print is injurious: light should be both sufficient and steady.

29. For dust in the eyes, avoid rubbing; dash water into them; remove cinders, etc., with round point of a lead pencil.

30. Take sweet things *before* bitter medicine.

31. Remove insects from the ear by tepid water; never put a hard instrument into the ear.

POISONING.

(The following suggestions are mainly derived from Howe's "Emergencies, and How to Treat Them." They are mere outlines of what may be done "before the doctor comes.")

40. Excite vomiting at once by large draughts of lukewarm water, by tickling the throat with the finger or a feather, or by mustard and water. Then, for all *irritating* poisons, give milk, the or white of egg beat up in water, or cream, or sweet oil, or mucilaginous drinks.
41. For acids, (vitriol, aquafortis, oxalic and carbolic acids, etc.,) give calcined magnesia, chalk or plaster in water, or strong soap suds.
42. For alkalies, (potash, lye, soda, ammonia or hartshorn,) give vinegar or lemon juice, in water.
43. For prussic acid, a teaspoonful of ammonia in a pint of water. For strychnine, inhale chloroform. For tobacco, use spirits and hot applications.
44. For opium, morphine, paregoric, give strong coffee and keep moving.
45. For lunar caustic, give two teaspoonsfuls of salt in a pint of water.
46. For corrosive sublimate, (bug poison,) the special antidote is white of egg or milk in large quantities; but, as said above, it is well to use these in all cases of poisoning after evacuating the stomach.
47. For ether, chloroform or chloral, employ artificial respiration, as for drowning; rub and slap the body and limbs.

ACCIDENTS, ETC.

48. In all cases, keep cool; and if alone, do what you can at once.
49. If an artery is cut, compress *above* the wound; if a vein is cut, compress *below*.
50. If choked, get upon all-fours and cough.
51. For slight burns, dip the part in cold water; if the skin is destroyed, cover with varnish.
52. Smother a fire with carpets, etc.; water will often spread burning oil and increase danger. Before passing through smoke, take a full breath and keep the head low; but if carbonic acid is suspected, walk erect.
53. Suck poisoned wounds, unless your mouth is sore; enlarge wound, or, better, cut out the part without delay; hold wounded part as near as can be borne to a hot coal, or end of a cigar.
54. If in the water, float on the back, with the nose and mouth projecting.
55. Never strike the head or the hands in punishment; avoid giving or taking a blow in the pit of the stomach or on the testicles.
56. For apoplexy, raise the head and body; for fainting, lay flat.